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ABSTRACT

Five sequential Basic Skill Levels (levels J, K, L, M, and MA) of a self-paced, individualized mathematics program designed to improve the achievement of junior high school students are presented in this student workbook. Each level includes a pretest, four to six lessons, quizzes (checkpoints) after each fourth lesson, a posttest, and a level review worksheet. Students must successfully complete the level they are on before proceeding to the next. The levels presented in this workbook are: (1) introduction to decimals; (2) adding and subtracting decimals; (3) multiplying decimals; (4) division of decimals; and (5) working with decimals. (DC)

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CALIFORNIA
DEMONSTRATION
MATHEMATICS PROGRAM

Decimals

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Hillview Junior High
Pittsburg Unified School District
Pittsburg, California

SE044129

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HILLVIEW JR. HIGH SCHOOL
CALIFORNIA MATH DEMONSTRATION PROGRAM

DECIMALS

LEVEL J Introduction to Decimals

LEVEL K Adding and Subtracting Decimals

LEVEL L Multiplying Decimals

LEVEL M Division of Decimals

LEVEL MA Working with Decimals

(Each Level consists of a Pretest, Lessons, Checkpoints, Posttest and Level Review)

LEVEL J Pretest NAME _____

Introduction to Decimals Period _____

Date _____

Write in words the decimal name of the following

1) .36 _____

Write the following as a decimal.

2) Two hundred forty six thousandths _____

Write in words the name for these mixed decimals

3) 1.003 _____

4) 9.8 _____

Write as mixed decimals

5) Twenty three and seven tenths _____

6) Nine and eleven hundredths _____

Write as decimals and mixed decimals

7) a) $\frac{2}{10}$ = _____ b) $\frac{19}{100}$ = _____ c) $\frac{161}{100}$ = _____

Write as fractions or mixed Numbers (fractions)

8) a) .7 = _____ b) 3.01 = _____ c) .04 = _____

(J-1)

Decimals are named by the number of decimal places.

Name the following

9) a) .6 is six _____ b) .81 is eighty one _____

Write this improper fraction as a mixed number (fraction) and as a mixed decimal

		Mixed Number	Mixed Decimal
10)	$\frac{437}{100}$ =	_____	_____

Write as a mixed decimal

11) Twenty five tenths _____

(J-2)

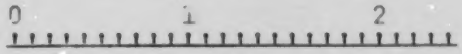
12) When does a fraction name a number <u>less</u> than one? When the _____ is less than the _____.

Circle the decimals that are equal to one

13) a) .9 b) 1.0 c) 1 d) 1.2 e) 0.8 f) 1.00 g) 10.6

Put an "x" on the number line for the following decimals and label each "x".

14) a) .8 b) .1 c) 1.6



Write as a decimal or a mixed decimal

15) a) $\frac{7}{10}$ = _____ b) $\frac{31}{1000}$ = _____ c) $\frac{24}{10}$ = _____

(J-3)

Level J pretest (cont.)

Circle the larger numbers in the following.

16) .8 or .9 17) 1.4 or 1.39 18) 2.02 or 2.20

Arrange in ascending order (smallest to largest)

19) .38, .369, 0.26, .261 _____

Arrange in descending order

20) 4.8, 4, 4.83, 4.78, 4.04 _____

(J-4)

Round off to the nearest 1's

21) a) 1.3 _____ b) 29.96 _____ c) 0.72 _____

Round off to the nearest 10th's

22) a) .14 _____ b) 3.56 _____ c) .03 _____

Round off to the nearest 100th's

23) a) 1.075 _____ b) .713 _____ c) .197 _____

Round off to the nearest 1000th's

24) a) 3.1675 _____ b) .0009 _____ c) 5.5996 _____

Round off to the nearest 10,000th's

25) a) .00065 _____ b) 3.51944 _____

26) a) .086 _____ b) 3.5412469 _____

(J-5)

What whole number or decimal number is halfway between the following

27) 3 and 7 _____ 28) 6 and 16 _____

29) 5 and 7 _____ 30) 10 and 12 _____

31) 8 and 9 _____ 32) 3.1 and 3.5 _____

33) 2.3 and 2.4 _____ 34) .42 and .424 _____

35) 1.76 and 1.77 _____ 36) .81 and .812 _____

Write three numbers between:

37) .25 and .26 1)_____ 2)_____ 3)_____

(J-6)

INTRODUCTION TO DECIMALS J-1

Name _____ Period _____ Date _____

Objective: You will be able to read and write decimal numerals up to four decimal places.

Study the chart below.

Millions	Hundred thousands	Ten thousands	Thousands	Hundreds	Tens	Ones	Decimal Point	Tenths	Hundredths	Thousandths	Ten-thousandths
1,	5	2	8,	7	3	4	.	5	6	9	7

We can write numbers less than "1" with fractions and with another kind of number called a "decimal fraction". Decimal fractions are numbers like the one above with a decimal point separating the number into two parts.

1) The _____ _____ separates decimal fractions.
2) The name of the first place to the right of the decimal point is _____.
3) .5 would be read as 5 tenths. .3 would be read as _____.
4) .6 would be read as _____.
5) The name in the second place to the right of the decimal point is _____
6) .17 would be read as 17 hundredths
7) .23 would be read as 23 _____
8) .05 would be read as _____
9) The name of the third place to the right of the decimal point is _____
10) .174 would read as 174 thousandths
11) .081 would be read as 81 _____
12) .835 would be read as _____
13) The name of the fourth place to the right of the decimal point is _____
14) .1903 would be read as 1903 ten-thousandths
15) .4872 would be read as _____
16) .0001 would be read as _____

How many decimal places are there in the following?

17) .3 has _____ decimal places, so it is called _____.

18) .05 has _____ decimal places, so it is called _____.

19) .9135 has ____decimal places, so it is called _____.

20) .107 has ____ decimal places, so it is called _____.

Write the following as decimals

21) six hundredths = .06

22) seventy-two hundredths = _____

23) eight ten-thousandths = _____

24) five hundred twenty-two thousandths = _____

25) sixty-four thousandths = _____

26) one hundredth = _____

When a number contains a whole number and a decimal, it is called a mixed decimal. The decimal point is read as and.

27) 32.29 would be read as 32 and 29 hundredths

28) 10.409 would be read as 10 _____ 409 _____

29) The decimal point is read as _____.

30) 4,693.1 would be read as 4,693 _____ 1 _____.

31) 25.38 is read 25 and 38 hundredths

32) 18.27 is read _____ _____ _____ _____

33) 20.3 is read _____ _____ _____ _____

34) 5.008 is read _____ _____ _____ _____

35) 1.3085 is read _____ _____ _____ _____

36) .105 is read _____ _____ (no and is used because this is not a mixed decimal)

Write the following as decimals

37) 10 and 25 hundredths _____

38) 10 and 25 thousandths _____

39) 327 ten-thousandths _____

40) 5 and 27 ten-thousandths _____

41) forty-two and fifty-six hundredths _____

42) six hundred and six thousandths _____

43) thirteen ten-thousandths _____

44) ninety and nine tenths _____

45) eight thousandths _____

Name _____ Period ____ Date _____

Objective: You will be able to rename a fraction as a decimal fraction, rename a decimal fraction as a fraction, rename a mixed decimal as a mixed number (fraction), rename a mixed number (fraction) as a mixed decimal.

1) $\frac{1}{10}$ This fraction is read one tenth. As a decimal it is written .1, because the first place to the right of the decimal point is called tenths.

2) $\frac{3}{10}$ = ___ because $\frac{3}{10}$ is read three _____, and .3 is read the same.

3) $\frac{7}{10}$ = ___ 4) $\frac{17}{10}$ = 1.7

Rename the following fractions as decimal fractions.

5) $\frac{9}{10}$ = _____ 6) $\frac{1}{10}$ = _____ 7) $\frac{10}{10}$ = _____

8) $\frac{12}{10}$ = _____ 9) $\frac{6}{10}$ = _____ 10) $\frac{20}{10}$ = _____

Rename these decimal numerals as proper fractions or mixed numbers (fractions). Remember the decimal point is used to separate the whole number from the fractional part.

11) 0.2 = $\frac{2}{10}$ 12) 0.3 = _____ 13) 0.7 = _____

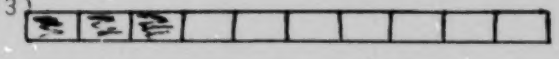
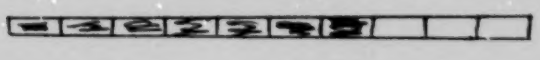
14) 2.6 = _____ 15) 0.9 = _____ 16) 1.3 = _____

Complete the chart

17) seven tenths	$\frac{7}{10}$	0.7
18) one tenth	_____	_____
19) one and three tenths	_____	_____
20) _____	$\frac{5}{10}$	_____
21) _____	_____	3.9

22) When renaming a common fraction with 10 as the denominator the decimal fraction form will always have _____ digit(s) to the right of the decimal point.

Give both a common fraction and a decimal fraction for the shaded portion of the drawings below.

	Common fraction	Decimal fraction
23) 	_____	_____
24) 	_____	_____

True or False

25) $\frac{1}{10} > 0.1$ _____ 26) $0.9 < \frac{9}{10}$ _____ 27) $0.7 = \frac{7}{10}$ _____

28) $\frac{8}{10} = .08$ _____ 29) $\frac{5}{100} = .05$ _____ 30) $.17 = \frac{17}{100}$ _____

Fractions are named by the denominator. So $\frac{2}{3}$ has the name of <u>thirds</u>. Decimal fractions are named by the number of digits to the right of the decimal point. The decimal point is read as <u>And</u> , if there is a number to the <u>left</u> of the decimal point larger than zero.

31) $1\frac{1}{10}$ would be read as one and _____ _____

32) 1.1 would be read as one and _____ _____

33) 3.7 would be read as three and _____ _____

Write these numbers as decimals and fractions

34) 14 tenths = 1.4 = $1\frac{4}{10}$

35) 9 tenths = _____ = _____

36) 33 tenths = _____ = _____

37) 25 tenths = _____ = _____

True or False

38) $1.4 > 1$ _____ 39) $3.3 > 1$ _____

40) $\frac{33}{10} < 3\frac{3}{10}$ _____ 41) $3\frac{3}{10} > 3.3$ _____

Write each of these improper fractions as a mixed number (fraction) and as a mixed decimal.

		fraction		decimal		fraction	decimal
42) $\frac{19}{10}$	=	$1\frac{9}{10}$	=	1.9	43) $\frac{42}{10}$ =	_____	= _____
44) $\frac{15}{10}$	=	_____	=	_____	45) $\frac{39}{10}$ =	_____	= _____
46) $\frac{151}{100}$	=	_____	=	_____	47) $\frac{221}{100}$ =	_____	= _____
48) $\frac{3465}{1000}$	=	_____	=	_____	49) $\frac{5004}{1000}$ =	_____	= _____

Write the decimal number for each of the following phrases.

50) three and four tenths _____

51) two hundred and thirty-one thousandths _____

52) Ninety-three and four hundredths _____

Use $>$, $<$, or = to make these statements true

53) 3.4 _____ 3.5

54) 8.1 _____ 8.02

55) 0.93 _____ 3.1

56) 34.04 _____ 34.40

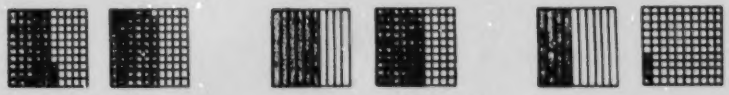
57) 1.011 _____ 1.101

58) $\frac{6}{10}$ _____ .06

59) .808 _____ 8.0

60) $\frac{16}{10}$ _____ 1.6

SHADED SQUARES CAN HELP YOU COMPARE DECIMALS



0.53 < 0.59 0.6 = 0.60 0.4 > 0.04

TO COMPARE DECIMALS JUST COMPARE THE DIGITS THAT ARE IN THE SAME PLACE

SAME

6.2043 6.2511

0 < 5

SO 6.2043 < 6.2511

8.1 0.99

8 > 0

SO 8.1 > 0.99

COMPARE THESE DECIMALS USING <, > OR =

1) 0.5 ___ 0.50

2) 0.30 ___ 0.3

3) .02 ___ .2

4) .6 ___ .06

5) .99 ___ 1

6) .53 ___ .54

7) .3894 ___ .3964

8) .007 ___ .07

9) .193 ___ .26

10) .257 ___ .261

11) .526 ___ 5.26

12) 9.5 ___ 9.50

13) 3.782 ___ 3.783

14) 4.2 ___ .9658

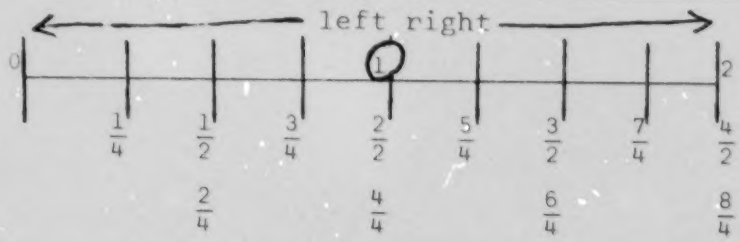
15) 3.6478 ___ 3.6478

16) .999 ___ 1

INTRODUCTION TO DECIMALS J- 3

Name _____ Period _____ Date _____

Objective: You will be able to locate decimal fractions on a number line, and tell if the decimal is greater or less than one.



COMMON FRACTION $\frac{1}{2}$ $\frac{\text{NUMERATOR}}{\text{DENOMINATOR}}$

Use the number line above to answer the following questions.

1) For each fraction to the right of 1, which is greater the numerator or denominator? _____

2) For each fraction to the left of 1, which is greater the numerator or denominator? _____

3) For each fraction equal to 1, what do you notice about the numerator and denominator? _____

Fill in the blanks.

4) When a fraction is less than 1, the _____ is less than the _____.

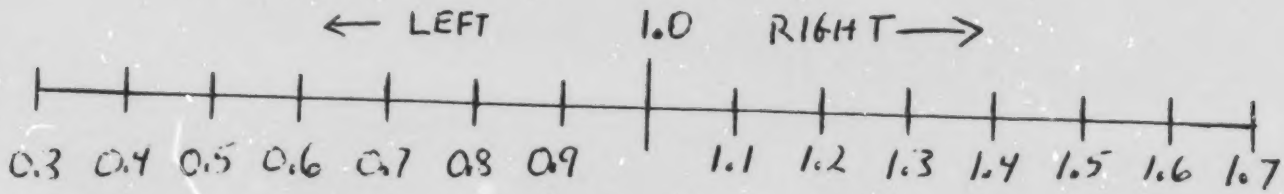
5) When a fraction is greator than 1, the _____ is greater than the _____.

6) When a fraction is equal to 1, the numerator and denominator are _____.

State which side of the number 1 these fractions would be located on a number line. Put L for left and R for right.

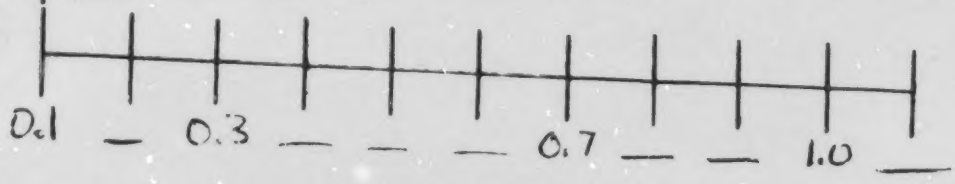
7) $\frac{3}{16}$ _____ 8) $\frac{4}{15}$ _____ 9) $\frac{12}{11}$ _____ 10) $\frac{1601}{1600}$ _____

11) $\frac{482}{300}$ _____ 12) $\frac{5}{9}$ _____ 13) $\frac{15}{4}$ _____ 14) $\frac{99}{100}$ _____

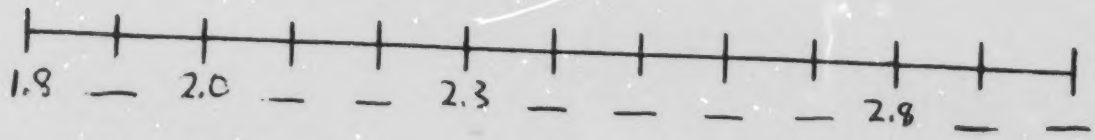


FILL IN THE BLANKS IN THE NUMBER LINES BELOW

1)



2)



Use the number line above to answer these questions.

15) What is on the left side of the decimal point if the decimal number is less than 1? _____

16) What is on the left side of the decimal point if the decimal number is greater than 1? _____

17) Circle the decimals below which name a number less than one.

0.9 5.0 0.8 2 11.1 0.5 1.2

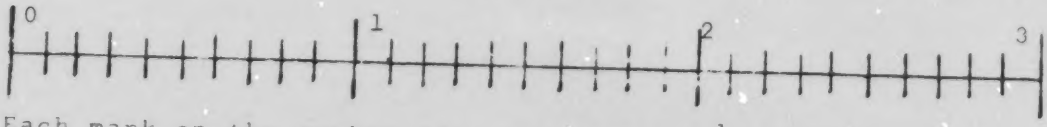
18) The zero in 0.3 means no ones. Do .3 and 0.3 name the same number? _____

19) Do 4 and 4.0 name the same number? _____

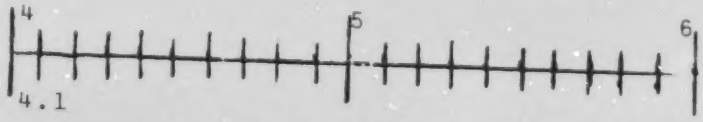
20) Circle the decimals below, which name a number greater than 1.

.9 0.1 1 1.3 2.7 .7 1.6

21) Locate the decimals above in problem #20 on this number line.



Each mark on the number line represents $\frac{1}{10}$ or .1



Locate these decimals on the number line above.

4.3 5.9 4.7 5.5 5 4.9

INTRODUCTION TO DECIMALS J - 4

Name_____ Period_____ Date_____

Objective: You will be able to arrange decimal numbers in ascending or descending order.

Ascend means to go up. You ascend a mountain, you climb up it.

Descend means to go down. You descend a ladder, you are going down it.

Ascending order of numbers means from smallest to largest.

Descending order of numbers means from largest to smallest.

Arrange these whole numbers in ascending order:

1) 14, 17, 12, 13, 20 _____

2) 333, 334, 332, 331, 335 _____

Arrange these whole numbers in descending order:

3) 21, 34, 23, 27, 29 _____

4) 101, 100, 103, 105, 104 _____

Arranging whole numbers is easy. Now lets try decimal numbers. The following steps can be used to arrange <u>all</u> decimal numbers in ascending or descending order.

Example: 5, 6.3, .7, .08

1) Place a decimal point to the right of all whole numbers (when necessary).

   5., 6.3, .7, 08

2) Rewrite by lining up the decimal points.

   5.
   6.3
   .7
   .08

3) Annex zeroes so that each number has the same number of places to the right of the decimal point (when necessary).

   5.00
   6.30
   .70
   .08

4) Read the number as if there were no decimal point.

   500
   630
   70
   08

J-4 (cont)

5) Then arrange as directed without the annexed zeros.

Ascending: .08, .7, 5., 6.3

Descending: 6.3, 5., .7, .08

Arrange in ascending order:

5) 2.4, .56, .81, 3 _____

6) .0045, .061, .62, 2.3 _____

7) .33, 3.3, 33, .033 _____

8) 12.62, 9.888, 16, .84 _____

9) 7.9, 12, 18, .6 _____

10) 33.3, .3365, .6, 7 _____

11) 176.3, 176.34, 169.881 _____

12) 2.6, 3.44, 2.61, 2.59 _____

Arrange in descending order:

13) .0088, .008, .00881, .0008 _____

14) .42, .04, .36, .7 _____

15) 1.1, .11, .011, .2 _____

16) 200, .200, 200.2 _____

17) .665, 892, .687 _____

18) 12.4, 13.5, 11.8 _____

19) .064, .0641, .06415 _____

20) .001, .01, .1, 1 _____

LEVEL J Checkpoint 1-4 NAME _____

Introduction to Decimals Period _____

Date _____

1) Write a decimal number for twenty-five hundredths _____

2) Write a mixed decimal name for ten and fifteen thousandths

_____

(J-1)

3) Rename $\frac{9}{10}$ as a decimal _____

4) Write $\frac{225}{100}$ as a mixed decimal. _____

5) Write 17 tenths as a decimal and a fraction (both are mixed)

Decimal _____ Fraction _____

(J-2)

6) What will be to the left of the decimal point if the decimal is less than one? _____

7) Circle the decimal numbers below which are greater than one.

a) 0.6 b) 2.4 c) 6.09 d) 0.88 e) 1.0 f) 0.19 g) 345.1

(J-3)

8) Circle the smaller number .001 or .0001

Arrange in ascending order. (Smallest to Largest)

9) 1.07, 3.4, 0.99, 1.1 _____

Arrange in descending order

10) 3.8, 4.8, 3.81, 482, 3.87, 4 _____

(J-4)

LEVEL J CHECKPOINT A 1-4

Introduction to Decimals

Name _____

Period _____

Date _____

1) Write a decimal number for 21 hundredths _____

2) Write in words the decimal name for 3.015

_____

(J-1)

3) Rename $\frac{7}{10}$ as a decimal _____

4) Write $\frac{324}{100}$ as a mixed decimal _____

5) Write 15 tenths as a decimal and as a fraction (both are mixed)

Decimal _____ Fraction _____

(J-2)

6) What number will be to the left of the decimal point if the decimal number is <u>greater</u> than one? _____

7) Circle the decimal numbers below which are <u>less</u> than one.

a) 16.7 b) 0.7 c) 1.2 d) 0.99 e) 0.10 f) 1.0 g) 4.8

(J-3)

8) Circle the larger number .71998 or .72

Arrange in descending order (Largest to smallest)

9) 1.32, 0.9, 1, 1.25, 1.3, 1.61 _____

Arrange in ascending order

10) 8.5, .85, .085, .851, 8 _____

(J-4)

Introduction to Decimals J-5

Name _____ Period _____ Date _____

Objective: You will be able to round numbers off to the nearest 1's,10th's,100th's,1000th's,and10,000th's.

Do you remember from Level A how to round off? Try these.

ROUND OFF TO THE NEAREST 10's.

1) 7 _____ 2) 56 _____ 3) 132 _____ 4) 3009 _____

ROUND OFF TO THE NEAREST 100's

5) 49 _____ 6) 351 _____ 7) 4981 _____ 8) 59672 _____

To round off to the nearest 1's, you use the same rules as rounding off to the nearest 10's. Count by 1's (0,1,2,3,4,5...)
Find the one's place, look at the 10th's place, if it is 5 or more add 1 to the one's place, if it is less than 5 just drop all decimal places. examples: a) 3.7 = 4 b) .876 = 1 c) 4.034 = 4
ROUND OFF TO THE NEAREST 1's.

9) 1.2 _____ 10) 2.7 _____ 11) 4.51 _____ 12) .76 _____

13) .081 _____ 14) 156 _____ 15) .978 _____ 16) 346.72 _____

17) 49.6 _____ 18) 172.3 _____ 19) 3.098376251438697 _____

Rounding off decimals is the same as rounding off whole numbers except you drop all decimal places to the right of what you are rounding off to.
In other words, if you round off to the nearest 10th's there will be only 1 decimal place. 100th's there will be 2 decimal places. 100th's there will be 3 decimal places and so on.
Also if there is no decimal point, add decimal places (put zeros in) to the place you are rounding off to.
Look at the flow chart from Level A Lesson 6.

REMEMBER: DROP ALL DECIMAL PLACES TO THE RIGHT OF THE DIGIT YOU ARE ROUNDING OFF TO OR ADD DECIMALS PLACES IF ONLY WHOLE NUMBERS

ROUND OFF TO THE NEAREST 10th's (all answers will have one decimal place)

examples: a) 4.36 = 4.4 because 6 is more than five, add one to the tenths place and drop the hundredth's place

b) 13.21478 = 13.2 because the 1 is less than 5, the tenths place stays the same. Drop all decimal places to the right of the tenths place

c) 17 = 17.0 Since we are rounding off to the 10th's place we have to have a tenths place digit, so we put a zero

Try these!

20) 3.23 _____ 21) .08 _____ 22) 23.7 _____ 23) 25.76 _____

24)1.021 _____ 25) .0045 _____ 26) 14 _____ 27) .97823 _____

Did you get 14.0 for problem # 26? Remember you have to have a decimal place to where you are rounding off.

ROUND OFF TO THE NEAREST 100th's (all answers will have two decimal places)

example: .135 = .14 (This can be important when working with money)

28) 15.072 _____ 29) .195 _____ 30) 14.7 _____ 31) .763 _____

32) 102.41 _____ 33) .0031 _____ 34) .0051 _____ 35) 1.697 _____

ROUND OFF TO THE NEAREST 1000th's (all answers will have three decimal places)

examples: a) 3.1476 = 3.148 b) .0082 = .008

36) .0013 _____ 37) .0017 _____ 38) 16.14 _____

39) 1.2397 _____ 40) 123.1475 _____

ROUND OFF TO THE NEAREST 10,000th's (all answers will have four decimal places)

41) 3.1431 _____ 42) 1.75 _____ 43) .00413 _____

44) .45989 _____ 45) 2.768931 _____

Name _____ Period _____ Date _____

Objective: You will be able to write a number halfway between two given numbers and write a series of numbers between any two given numbers

Halfway between means to take the average of the two numbers given. (Add the numbers together and then divide by 2.)

Write a whole number that is halfway between 1) 2 and 4 _____

2) 0 and 6 _____ 3) 0 and 10 _____

4) 1 and 5 _____ 5) 0 and 2 _____

6) Can you write a whole number that is halfway between 0 and 1? _____

If you answered no you are correct

7) Write a fractional number halfway between 0 and 1._____

Did you write $\frac{1}{2}$? _____

Write a mixed number that is halfway between.

8) a) 1 and 2 _____ b) 4 and 5 _____ c) 9 and 10 _____

9) Write a decimal number that is halfway between 0 and 1_____

(Since $\frac{1}{2} = \frac{5}{10}$ which is .5 you should have written .5)

Write a decimal number that is halfway between

10) 1 and 2 _____ 11) 4 and 5 _____ 12) 9 and 10 _____

13) .4 and .6 _____ 14) .4 and .5 _____ 15) .5 and .6 _____

If you had trouble with problem # 14 or 15 try these.

16) .40 and .50 _____ 17) .50 and .60_____

Write a decimal **halfway between**

18) .6 and .7 _____ 19) .3 and .4 _____ 20) .1 and .2 _____

21) .56 and .57 _____ 22) .475 and .476 _____ 23) .5 and .51 _____

Now you will write numbers between two given numbers

24) Write all whole numbers between 3 and 8 _____

25) Write all whole numbers between 12 and 16 _____

J-6 (cont)

26) Write a whole number between 4 and 7 _____

27) Write a whole number between 56 and 60 _____

28) Write a decimal number between .3 and .6 _____

29) Write a decimal number between .3 and .4 _____

30) Tough one coming up! Write a decimal number between .55 and .56 _____ Remember, you can put zeroes on the right side of the decimal number any time you want so .55 could be .550 and .56 could be .560 so a decimal number between .550 and .560 could be .551,.552,.553 etc.

Write a decimal number between the following decimals

31) .45 and .46 _____ 32) .22 and .23 _____

33) .15 and .16 _____ 34) .15 and .151 _____

List at least <u>three</u> decimal numbers between the following

35) .71 and .72 _____ _____ _____

36) .8 and .9 _____ _____ _____

37) .114 and .115 _____ _____ _____

38) .44 and .46 _____ _____ _____

39) .93 and .92 _____ _____ _____

40) .2 and .21 _____ _____ _____

LEVEL J A-CHECKPOINT 5-6

Name _____

Period _____

Introduction to Decimals

Date _____

Round off to the nearest 1's.

1) a. .75 = _____ 2) a. 47.8 = _____

b. 3.27 = _____ b. 99.6 = _____

Round off to the nearest 10ths.

3) a. .08 = _____ 4) a. .2089 = _____

b. 3.45 = _____ b. 37.95 = _____

Round off to the nearest 100ths.

5) a. .078 = _____ 6) a. .0003 = _____

b. 1.582 = _____ b. 1.4761 = _____

Round off to the nearest 1000ths.

7) a. .07607 = _____ b. 13.5487 = _____

Round off to the nearest 10,000ths.

8) a. .000398 = _____ b. 8.176343 = _____

(J-5)

9) a. What number is halfway between 3 and 4.

_____

b. What number is halfway between 2.72 and 2.73.

_____

10) Write three numbers that are between .31 and .312

_____, _____ and _____

(J-6)

LEVEL J CHECKPOINT 5-6

Name _____

Period _____

Date _____

Introduction to Decimals

Round off to the nearest 1's.

1) a. 2.07 = _____ 2) a. 36.802 = _____

b. .8 = _____ b. 4.7 = _____

Round off to the nearest 10ths.

3) a. .073 = _____ 4) a. 3.54 = _____

b. .97 = _____ b. 47.8 = _____

Round off to the nearest 100ths.

5) a. 4.1387 = _____ 6) a. .032 = _____

b. .876 = _____ b. 1.007 = _____

Round off to the nearest 1,000ths.

7) a. .0003 = _____ b. 1.3075 = _____

Round off to the nearest 10,000ths.

8) a. .37648 = _____ b. .00085 = _____

(J-5)

9) a. What number is halfway between 6 and 7. _____

b. What number is halfway between 1.4 and 1.5 _____

10) Write three numbers that are between .023 and .03

_____, _____ and _____

(J-6)

LEVEL J POSTTEST

Introduction to Decimals

Name _____

Period _____

Date _____

Write in words the decimal name of the following.

1) .017 _____

Write the following as a decimal

2) One hundred twenty three thousandths _____

Write in words the name for these mixed decimals.

3) 3.7 _____

4) 2.004 _____

5) In writing mixed decimals, what word is used to represent the Decimal point? _____

Write as mixed decimals

6) fourteen and five tenths _____

7) three and twelve hundredths _____

(J-1)

Write as decimals or mixed decimals.

8) a) $\frac{23}{10}$ = _____ b) $\frac{1}{10}$ = _____ c) $\frac{6}{100}$ = _____ d) $\frac{186}{100}$ = _____

Write as fractions or mixed numbers (fractions)

9) a) .5 = _____ b) .07 = _____ c) .031 = _____ d) 4.86 = _____

Write this improper fraction as a mixed number (fraction) and as a mixed decimal.

	Mixed Number	Mixed Decimal
10) $\frac{39}{10}$	_____	_____

Decimals are named by the number of decimal places.

11) a) .8 is eight _____ b) .038 is thirty eight _____

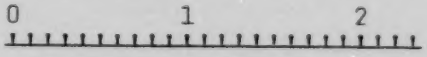
(J-2)

12) When does a fraction name a number greater than one? When the _____ is greater than the _____.

Circle the decimals below which are greater than one.

13) a) 1.3 b) .98 c) .007 d) 2.08 e) 1.001 f) 0.998

Mark and label with the decimal numbers below a point on the number line



14) a) .6 b) 1.2 c) 0.2

Write as a decimal or a mixed decimal

15) a) $\frac{5}{10}$ = _____ b) $\frac{31}{1000}$ = _____ c) $\frac{46}{10}$ = _____

(J-3)

Level J Posttest (cont.)

Circle the larger numbers in the following

16) .3 or .2 17) 1.9 or 1.89 18) .47 or 4.6

Arrange in ascending order (smallest to largest)

19) 88.7, 9, 8.99, .899 _____

Arrange in descending order

20) 6, 6.3, 6.23, 6.31, 62.6 _____

(J-4)

Round off to the nearest 1's

21) a) 3.5 = _____ b) 7.16 = _____ c) .009 = _____

Round off to the nearest 10th's

22) a) 1.38 = _____ b) .096 = _____ c) 7.327 = _____

Round off to the nearest 100th's

23) a) 3.068 = _____ b) .0017 = _____ c) 7.6857 = _____

Round off to the nearest 1000th's

24) a) 2.0038 = _____ b) 0.7892 = _____

Round off to the nearest 10,000th's

25) a) .007856 = _____ b) 31.987 = _____

26) a) 1.00965 = _____ b) .00096 = _____

(J-5)

What numbers are halfway between the following.

27) 6 and 10 _____ 28) 5 and 7 _____

29) 10 and 12 _____ 30) 19 and 21 _____

31) 5 and 6 _____ 32) 4.3 and 4.5 _____

33) 1.7 and 1.8 _____ 34) .32 and .33 _____

35) 1.46 and 1.464 _____ 36) .081 and .082 _____

Write three numbers between:

37) .56 and .57 1) _____ 2) _____ 3) _____

(J-6)

LEVEL REVIEW J

Name_____ Period____ Date_____

Introduction to Decimals

1. Write in words the decimal name for 3.015

_____

(J-1)

2. Rename $\frac{7}{10}$ as a decimal _____

3. Write 15 tenths as a decimal and as a fraction (both are mixed)

Decimal _____ Fraction _____

(J-2)

4. Circle the decimal numbers below which are <u>less</u> than one.

a) 16.7 b) 0.7 c) 1.2 d) 0.99 e) 0.10 f) 1.0
g) 4.8

(J-3)

5. Circle the larger number .71998 or .72

6. Arrange in ascending order

8.5, .85, .085, .851, 8 _____

(J-4)

7. Round off to the nearest 1's. tenth's

a. .75= _____ c. .2089 = _____

3.47= _____ d. 37.95 = _____

8. Round off to the nearest 100ths

a. .078 = _____ c. .0003 = _____

1.582 = _____ d. 1.4761 = _____

(J-5)

9. a. What number is halfway between 3 and 4? _____

b. What number is halfway between 2.72 and 2.73? _____

10. Write three numbers that are between .31 and .312.

_____, _____, _____

(J-6)

PRETEST LEVEL K

Addition and Subtraction

of Decimals

Name _____

Period _____

Date _____

Add the following:

(1) .4 + .8 = _____

(2) 5 + .07 = _____

(3) .2 + 1.5 + .03 = _____

(4) .009 + 6 + 1.5 = _____

(5) 1.4 + 3 + .052 + 1.61 = _____

(6) 1.2 + 3.05 + .07 + 3.991 = _____

(7) 171 + .171 + 17.1 = _____

(8) 400 + 40 + 4 + .4 + .04 = _____

(K-1)

(9) Mother went shopping for food. She spent $.89 for bread, $.97 for milk, and $1.49 for hot dogs. How much did she spend altogether?

_____

(10) In one week it rained as indicated below.

Monday - .99"

Wednesday - 1.3"

Thursday - .62"

Saturday - 2.11"

Sunday - .009"

The total rainfall for the week was _____.

(K-2)

Pretest Level K (con't)

(11) .5
- .4

(12) .70
- .04

(13) 1.23
- .24

(14) 20.32
- 7.66

(15) 32.7
- 32.6

(16) 27.30
- 3.25

(K-3)

(17) .7
- .23

(18) 1.72
- .5

(19) 42.28
- 21.193

(20) 40
- .25

(21) 3.69
- .5

(22) 32.1
- 2.73

(K-4)

(23) 1.05 - .981 = _____

(24) 5.139 - .9 = _____

(25) 25 - 2.5 = _____

(26) 2.01 - .932 = _____

(27) 17 - 3.75 = _____

(28) 16.139 - 14.2 = _____

(K-5

(29) Joe ran the 440 in 45.2, and Ricky ran it in 41.09.
What was the difference in the two times? _____

(30) You need $102.05 for a ten speed. You have saved $79.96.
How much more do you need to save? _____

(K-6)

ADDITION OF DECIMALS K-1

Name_____ Period_____ Date_____

Objective: You will be able to add two or more decimal numbers of any size.

When adding decimal numbers, make sure you add like place values.

Use the following steps.

Problem: 5 + 6.3 + .7 + .08

Step 1) Place a decimal point to the right of all whole numbers (when necessary)

5., 6.3, .7, .08

Step 2) Rewrite by lining up the decimal points vertically, this includes the decimal point in the answer.

```
  .          5.
  .          6.3
  .           .7
+ .       + .08
  .
```

Step 3) Annex zeroes as place holders only if it will help to keep your columns straight.

```
   5.                    5.00
   6.3          or       6.30
    .7                    .70
+  .08            +      .08
-------            -------
  12.08              12.08
```

Step 4) Then add!

These examples have been set up for you. Add

1) .2 + 1.3

2) 6.5 + 2.6

3) .5 + .8

4) .3 + .7

5) 3.3 + 4.2 + 1.4

6) 3. + 4.3

7) 3.67 + 4.7

8) .007 + 1.4 + 53.08

9) 7. + 5.61 + .1234

K-1 (cont)

10)
$$\begin{array}{r} 2.63 \\ 25.54 \\ 32.37 \\ +\ 52.46 \\ \hline \end{array}$$

11)
$$\begin{array}{r} .9 \\ +\ .243 \\ \hline \end{array}$$

12)
$$\begin{array}{r} .37 \\ .02 \\ 1.38 \\ +\ .33 \\ \hline \end{array}$$

Do these on your own. Refer to steps if needed.

13)
$$\begin{array}{r} 2.93 \\ .9 \\ 36. \\ +\ .001 \\ \hline \end{array}$$

14)
$$\begin{array}{r} 13. \\ 1.36 \\ +\ 105.8 \\ \hline \end{array}$$

15)
$$\begin{array}{r} 8.002 \\ .5 \\ +\ .02 \\ \hline \end{array}$$

16)
$$\begin{array}{r} .36 \\ .064 \\ +\ .58 \\ \hline \end{array}$$

17)
$$\begin{array}{r} .4 \\ .35 \\ +\ .67 \\ \hline \end{array}$$

18)
$$\begin{array}{r} 300. \\ .03 \\ .9 \\ +\ .5 \\ \hline \end{array}$$

19) 2.147 + 4.8 + .962 + .71 =

20) .2 + .3674 + .003 =

21) .302 + 5 + .09 + .6592 =

ADDITION OF DECIMALS K - 2

Name_____ Period_____ Date_____

Objective: You will be able to use addition of decimals to solve practical problems.

1) A mother bought shoes for each of her four children. The prices were $4.73, $5.72, $6.75 and $7.93. What was the total cost?

_____

2) Three girls in a typing class each took a speed test. The times in minutes were 12.6, 13.7, and 10.9. What was the total time?

_____

3) A carpenter needs four pieces cut from a board. The lengths in inches are 7.6, 8.54, 16.7 and 10.6. What is the shortest board he can cut these pieces from?

_____

4) A man went shopping for clothes. He spent 35 cents for a handkerchief, $11.75 for a pair of pants, $12.10 for a coat, and $1.75 for a pair of sox. How much did he spend?

_____

5) A tree grew 4.1 inches the first year, 6.7 inches the second and 7.7 inches the third. How much did the tree grow in 3 years?

_____

6) Judy had $10.72 in her savings. In one month she made three deposits of $3.72, $6.42, and $2.38. How much money does she now have in the bank?

_____

7) Mrs. Brown bought a shirt for $2.98, a blouse for $4.69, a pair of stockings for $1.39 and a pair of shoes for $9.98. What was her bill?

_____

SUBTRACTION OF DECIMALS K - 3

Name _____ Period _____ Date _____

Objective: You will be able to subtract decimals with borrowing.

You have learned that in addition of decimals it is necessary to line up decimal points and match decimal places vertically.
In subtracting decimals, the same rules hold.

(1) .3 − .2 = .

(2) .97 − .34 = .

(3) 1.9 − .6 = .

(4) 7.6 − 5.3 =

Remember to line up decimal points in a vertical line.

Subtract:

(5) 2.9 − 1.7 =

(6) 32.5 − 1.4 =

(7) 16.7 − 6.2 =

(8) 7.38 − 1.08 =

(9) 2.75 − 1.24 =

(10) 9.64 − 7.54 =

Borrowing in subtraction of decimals is no different than that with whole numbers.

(11) Subtract: .57 − .38 = 4 17 / .8 7 − .3 8 = .9

(12) 2.34 − .37 = 1 12 14 / 2.3 4 − .3 7 = .7

(13) 1.00 − .32 = 0 9 10 / 1.0 0 − .3 2

(14) 2.57 − 1.58 =

Subtract the following. Borrow when necessary. Set decimals first.

(15) 9.8 - 2.9	(16) 10.2 - 8.8	(17) 11.7 - 7.7	(18) 32.9 - 32.3
(19) 7.17 - 2.08	(20) .362 - .177	(21) 27.3 - 18.9	(22) 18.5 - 7.9
(23) 6.152 - 3.253	(24) 6.85 - 6.77	(25) 29.3 - 9.7	(26) 5.251 - 2.737
(27) .732 - .653	(28) 1.010 - .909	(29) 9.103 - .999	(30) 8.027 - 6.328

SUBTRACTION OF DECIMALS K - 4

Name_____ Period_____ Date_____

Objective:	You will be able to subtract decimals when annexing zeros is necessary.

When subtracting decimal numbers make sure you subtract like place values.

Use the following steps.

Problem: 5 - 1.03

Step 1) Place a decimal point to the right of all whole numbers (when necessary)

5., 1.03

Step 2) Rewrite by lining up the decimal points vertically, this includes the decimal point in the answer.

$$\begin{array}{r} . \\ -\ . \\ \hline \end{array} \qquad \begin{array}{r} 5. \\ -\ 1.03 \\ \hline \end{array}$$

Step 3) Annex zeros as place holders

Step 4) then subtract

In these problems Step 1 and 2 have been done for you. Please subtract.

1) $\begin{array}{r} 6.23 \\ -\ 4.7 \\ \hline \end{array}$ becomes $\begin{array}{r} 6.23 \\ -\ 4.70 \\ \hline \end{array}$

2) $\begin{array}{r} 42.1 \\ -\ 5.92 \\ \hline \end{array}$ becomes $\begin{array}{r} 42.10 \\ -\ 5.92 \\ \hline \end{array}$

3) $\begin{array}{r} .16 \\ -\ .123 \\ \hline \end{array}$

4) $\begin{array}{r} 42.07 \\ -\ 5.2 \\ \hline \end{array}$

5) $\begin{array}{r} 11.7 \\ -\ 10.331 \\ \hline \end{array}$

6) $\begin{array}{r} .321 \\ -\ .2 \\ \hline \end{array}$

K-4 (cont)

8) $\begin{array}{r} 13.5 \\ -\ 8.62 \\ \hline \end{array}$

9) $\begin{array}{r} .79 \\ -\ .2 \\ \hline \end{array}$

10) $\begin{array}{r} .7 \\ -.243 \\ \hline \end{array}$

11) $\begin{array}{r} 46.2 \\ -\ 30.23 \\ \hline \end{array}$

12) $\begin{array}{r} 6.56 \\ -\ 2.10 \\ \hline \end{array}$

13) $\begin{array}{r} 4.7 \\ -\ 3.62 \\ \hline \end{array}$

14) $\begin{array}{r} .8 \\ -\ .65 \\ \hline \end{array}$

15) $\begin{array}{r} 18.643 \\ -\ 9.7 \\ \hline \end{array}$

16) $\begin{array}{r} 4.7 \\ -\ 3.62 \\ \hline \end{array}$

17) $\begin{array}{r} 1280.7 \\ -\ 650.38 \\ \hline \end{array}$

18) $\begin{array}{r} 112.7 \\ -\ 4.321 \\ \hline \end{array}$

19) $\begin{array}{r} 17.705 \\ -\ 6.8 \\ \hline \end{array}$

20) $\begin{array}{r} 7 \\ -\ 3.6 \\ \hline \end{array}$ becomes $\begin{array}{r} 7.0 \\ -\ 3.5 \\ \hline \end{array}$

21) $\begin{array}{r} 19 \\ -\ 7.32 \\ \hline \end{array}$ becomes $\begin{array}{r} 19.00 \\ -\ 7.32 \\ \hline \end{array}$

22) $\begin{array}{r} 17 \\ -\ 12.75 \\ \hline \end{array}$

23) $\begin{array}{r} 222.7 \\ -\ 16 \\ \hline \end{array}$

24) $\begin{array}{r} 32.6 \\ -\ 15 \\ \hline \end{array}$

25) $\begin{array}{r} 176 \\ -\ 75.23 \\ \hline \end{array}$

LEVEL K CHECKPOINT 1-4

Adding and Subtracting Decimals

Name _____

Period _____

Date _____

Add the following.

1) 4.3 + .07 + 5 = _____

2) .007 + .131 + .497 = _____

3) 17 + 1.7 + 16.3 = _____

(K-1)

4) Jennifer ran the 100 yard dash in 12.6 seconds, Janet ran it in 12.7 seconds and June ran it in 13.4 seconds. What was their combined time. _____

5) Mr. Fernandez spent $43.45 on a circular saw, $9.17 for a level and $8.87 for a shovel. How much did he spend? _____

(K-2)

6) 7.6
- 5.3

7) 2.34
- 1.37

8) 42.1
- 5.92

9) .3 27
- .2

10) 17
- 11.38

(K-3,4)

LEVEL K A-CHECKPOINT 1-4

Adding and Subtracting Decimals

NAME _____

Period _____

Date _____

1) 1.7 + .096 + 11.34 = _____

2) 24 + 2.4 + .24 + .0024 = _____

3) 10.1 + 37.06 + 1.754 + 8.34 = _____

(K-1)

4) Yesterday, Quincy spent $1.63 on food, $2.50 for a movie and $3.63 for gas. How much did he spend yesterday? _____

5) Guadalupe mixed 1.5 liters of water with 2.3 liters of oil and .7 liters of vinegar in her science class. How many liters of salad dressing did she end up with? _____

(K-2)

6) 8.4
- 4.3

7) 3.36
-2.19

8) 37.2
- 5.14

9) 4.73
- .6

10) .6
- .597

(K-3,4)

SUBTRACTION OF DECIMALS K - 5

Name_____ Period_____ Date_____

Objective: You will be able to rewrite subtraction of decimal problems from horizontal to vertical arrangement.

When subtracting decimal numbers make sure you subtract like place values.

Use the following steps:

Problem: 5 - 1.03 =

Step 1) Place a decimal point to the right of all whole numbers (when necessary)

5., 1.03

Step 2) Rewrite by lining up the decimal points vertically, this includes the decimal point in the answer.

$$\begin{array}{r} \,\overset{\circ}{.} \\ -\;\;. \\ \hline \,. \end{array} \qquad \begin{array}{r} \,5. \\ -\;1.03 \\ \hline \end{array}$$

Step 3) Annes zeros as place holders.

Step 4) Then subtract

Now do these on your own using all the steps.

1) 142 - 1.42 = 2) .96 - .91 = 3) 746.1 - 3.23 =

4) 9.75 - 3.23 = .06 - .01 = 6) 18.565 - 1.24 =

7) 72.427 - 4.36 = 8) 63.45 - 32 9) 5 - 4.999 =

10) 412.96 - 146.8 = 11) 9.62 - 2.4 = 12) 12 - .6 =

13) 11.04 - 7.6 = 14) 72.0 - 3.55 = 15) 25 - .25 =

K-5 (cont)

16) .75 - .75 =

17) 32.26 - 26.32 =

18) 7.343 - .34 =

19) 17.17 - 7.1 =

20) 149.8 - 16.47 =

21) 149 - 6.04 =

22) .47 - .4 =

23) .122 - .019 =

24) 162.28 - 16.06 =

25) 3.003 - .7 =

SUBTRACTION OF DECIMALS K - 6

Name_____ Period_____ Date_____

Objective: You will be able to apply subtraction of decimals to the solution of word problems.

Remember the rules for subtraction of decimals.

Write your work in vertical form and find the answer.

1) Tammy sold her wagon for $12.33. She bought a new skateboard (with optional equipment) for $31.12. How much extra did she need?

_____

2) Robert's bowling ball weighs 13.08 pounds, JJ's bowling ball weighs 16 pounds. How much more does JJ's weigh?

_____

3) Jennifer had $72.38. She lost $14.13, spent $18.07 and gave $11.00 to her friend. How much did she have left?

_____

4) Hilliview's time for the 100 yard dash was 10.07 seconds. Central's time for the 100 yard dash was 10.38 seconds. Which team was the faster? _____ . By how many seconds?

_____

5) Malcolm's mother gave him $25. He bought a pair of shoes for $23.79. How much does he have left?

_____

6) Robert bought wood for $15.98, nails for $2.75 and paint for $9.59 (disregard sales tax). How much change will he get if he gave the clerk $30.

_____

7) Sam has a board 9.597 cm long. He has to cut a piece 8.25 cm long for a workshop project. How much will he have left?

_____

8) You buy shoes for $19.95, socks for $1.18, shirt for $6.22 tie for $7.26 and shades for $5.37 . You give the clerk two twenty dollar bills. How much is left?

_____

9) Buy:

Milk	$1.07
Bread	.59
Corn	.47
Onions	.56
Peaches	.89
TOTAL	
Pay with	$5.00

Your change will be _____

10) Buy:

Cabbage	$ .32
Bread	1.09
Pop	1.89
Syrup	.68
Catsup	.99
Hot dogs	1.87
Buns	.59
TOTAL	
Pay with	$10.00

Your change will be _____

LEVEL K A-CHECKPOINT 5-6

Adding and Subtracting Decimals

Name _____

Period _____

Date _____

(1) 4.31 - 1.6 = _____ (2) 11.25 - 4.6 = _____

(3) 24.1 - 5.29 = _____ (4) 76.4 - 23 = _____

(5) 1.7 - .003 = _____ (6) 23 - 11.2 = _____

(K-5)

(7) John spend $12.82 for a tennis racket while Dave spent only $9.39 for the same racket at a different store. How much more did John spend? _____

(8) Sherry hiked 3 kilometers before she rested. If the trail she was hiking is 7.4 kilometers long, how many kilometers did she have to still hike after she rested? _____

(9) Two boys earned $23.17 in one day. If boy #1 earned $16.50, how much did boy #2 earn? _____

(10) Evonne broke her metric stick and had to measure starting with 8 centimeters. If an object she measured read 13 centimeters on the broken stick, how long was the object? _____

(K-6)

LEVEL K CHECKPOINT 5-6

Adding and Subtracting Decimals

Name _____

Period _____

Date _____

(1) 5 - 4.3 = _____ (2) 4.13 - 1.6 = _____

(3) 74.6 - 32 = _____ (4) 11.25 - 6.4 = _____

(5) 1 - .07 = _____ (6) 2.3 - 2 = _____

(K-5)

(7) Jose's frog jumped 1.3 meters, 1.2 meters and .8 meters in it's three jumps. If the winner's frog jumped a total of 3.5 meters, how many meters did jose's frog lose by? _____

(8) Priscilla weighs 52.4 kilograms and Vita weighs 49 kilograms. What is the difference of their weights? _____

(9) It has rained 2.6 inches, .45 inches and 1.23 inches the last three days. How much rainfall would there have to be today for the four day total to be 5 inches? _____

(10) Christopher spent $43.37 on clothes while Tony spent $17.85. How much more money did Christopher spend? _____

(K-6)

POSTTEST LEVEL K

Addition and Subtraction of Decimals

Name _____

Period _____

Date _____

(1) 5 + .04 = _____

(2) .001 + .004 = _____

(3) 1.4 + 3.5 = _____

(4) 41.7 + .417 = _____

(5) 1.03 + .78 + .1 = _____

(6) .1 + 12 + 2.5 = _____

(7) 100.4 + 60 + .305 = _____

(8) .005 + 7 + 2.1 = _____ (K-1)

(9) Joshua spent $2.50 at the arcade. He bought a soda for $.75 and spent $.25 on the bus to get home. How much did he spend in all?

_____

(10) Hillview students ran the 100 yard dash in 20 seconds, 20.91 seconds, and 21 seconds. What was the total time?

_____

(K-2)

(11) .05
- .04

(12) .60
- .05

(13) 7.62
- .74

(14) 30.42
- 7.76

(15) 29.6
- 29.5

(16) 50.50
- 25.25

(K-3)

Posttest Level K (con't)

(17) .9
- .25

(18) 3.93
- .5

(19) 52.38
- 21.194

(20) 50
- .25

(21) 4.79
- .8

(22) 76.1
- 2.73

(K-4)

(23) 1.65 - .75 = _____

(24) 6.236 - .33 = _____

(25) 75 - .25 = _____

(26) 32 - 3.26 = _____

(27) .05 - .04 = _____

(28) .99 - .009 = _____

(K-5)

(29) Last week Gary weighed 132.5 pounds, but he has lost 1.37 pounds so far this week. How much does he weigh now? _____

(30) Groceries cost $53.12, milk costs $.98, and pop was $3.08. You gave the grocery store clerk $60.00. How much change did you get? _____

(K-6)

LEVEL REVIEW K

Name_____Period____Date_____

Adding and Subtracting Decimals

1. 1.7 + .096 + 11.34 = _____

2. 10.1 + 37.06 + 1.764 + 8.34 = _____

(K-1)

3. Yesterday Quincy spent $1.63 on food, $2.50 for a movie and $3.63 for gas. How much did he spend yesterday?_____

(K-2)

4.
$$\begin{array}{r} 37.2 \\ -\ 5.14 \\ \hline \end{array}$$

5.
$$\begin{array}{r} 4.73 \\ -\ .6 \\ \hline \end{array}$$

(K-3,4)

6. 11.25 - 4.6 = _____

7. 1.7 - .003 = _____

8. 23 - 11.2 = _____

(K-5)

9. John spent $12.82 for a tennis racket while Dave spent only $9.39 for the same racket at a different store. How much more did John spend? _____

10. Evonne broke her metric stick and had to measure starting with 8 centimeters. If an object she measured read 13 centimeters on the broken stick, how long was the object?

_____

(K-6)

Name _____ Period _____ Date _____

Pretest L Multiplication of Decimals

1) $.2 \times .4$

2) $.3 \times 6$

3) $1.2 \times .3$

4) 2.6×4

5) 1.7×2.3

6) $.32 \times 1.5$

7) $.002 \times 3$

8) $3.01 \times .04$

9) $.71 \times .042$

10) $28 \times .27$

11) 1.7×2.09

12) $.004 \times .02$

(L-1)

13) Jane walks .3 miles each day. How far does she walk in 5 days? _____

14) Oranges sell for $.15 each. How much does 7 oranges cost? _____

15) A car gets 16.8 miles per gallon. How far can you drive with 9.6 gallons? _____

(L-2)

16) $9.1 \times 10 =$ _____

17) $.06 \times 100 =$ _____

18) $31.07 \times 1000 =$ _____

19) $14.7 \times 100 =$ _____

20) $.0007 \times 1{,}000{,}000 =$ _____

(L-3)

Pretest L

21) .2 x .4 x .3 = _____

22) .04 x .001 x . 9 = _____

23) 79.01 x .021 = _____

24) .1 x .2 x .3 = _____

25) 1,700 x 4.5 x .02 = _____

(L-4)

State Demonstration Program
Pittsburg Unified School District

MULTIPLICATION OF DECIMALS L - 1

Name_____Period____Date_____

Objective: You will be able to multiply decimal numbers.

Multiplication of Decimals

Overview Practice Sheet

Follow these steps to do all multiplication of decimal problems.

Step I - multiply the numbers together - ignore the decimal points.

Step II - Count the number of decimal places. (places to the right of the decimal point)
Start at right of number and move decimal point the number of decimal places you counted.

	Step I	Step II
Examples:	1.41	2 decimal places
	x .30	2 decimal places
	4230	4 decimal places

answer is .4230

.07	2 decimal places
x .3	1 decimal place
21	3 decimal places

you have to annex a zero

answer is .021

3.6	1 decimal place
x 4	0 decimal place
144	1 decimal place

answer is 14.4

L-1 (cont.)

Put decimal point in products

1. .3 × 5 = 15

1 decimal place + 0 decimal place = 1 decimal place

2. .4 × .3 = 12

1 decimal place + 1 decimal place = __ decimal places

3. 1.2 × 5.4 = 48 + 60 = 648

1 decimal place + 1 decimal place = __ decimal places

4. .45 × 5 = 225

2 places + 0 place = ___places

5. .45 × .5 = 225

2 places + 1 place = __ places

6. 4.5 × .5 = 225

1 place + 1 place = __ places

7. .45 × .05 = 225

2 places + 2 places = __ places

Multiply the following:

In these problems, put in only the decimal point. Annex zeros if they are needed.

8. .02 × .3 = 012

9. 3.2 × .01 = 32

10. .43 × .04 = 172

11. .04 × .4 = 16

12) 4.6 × .04 = 184

13) 3.01 × .04 = 1204

L-1 (cont)

14. $.3 \times 8 = 2.4$

15. $.09 \times 2$

16. $.9 \times .7$

17. 3.5×7

18. $.04 \times 1$

19. $.001 \times 3$

20. $.04 \times .1$

21. $.09 \times 1$

22. $.03 \times 2$

23. $.02 \times 4$

24. $. .03 \times 3$

25. $.04 \times .03$

26. $.002 \times .01$

27. $.021 \times .01$

28. $.002 \times .001$

Do these problems. (WATCH THE DECIMAL POINT.)

29. $.04 \times .4$

30. $3.2 \times .2$

31. $82 \times .01$

32. $.001 \times .02$

33. $4.21 \times .06$

34 $.8 \times .21$

35. $31 \times .04$

36. $.85 \times .06$

37. 8.7×4

38. $6.1 \times .41$

39. $71 \times .042$

40. $.04 \times .001$

MULTIPLICATION OF DECIMALS L - 2

Name_____ Period_____ Date_____

Objective: You will be able to rewrite multiplication of decimals numbers from the horizontal to the vertical form.

Problems with multiplication of decimal numbers must sometimes be rewritten by you.

Sample: 4.2 x .33 Rewrite as

$$\begin{array}{r} 4.2 \\ .33 \\ \hline 126 \\ 126 \\ \hline 1{,}386 \end{array}$$

Rewrite and solve these problems:

1) 28 x .27 = Rewrite and solve

$$\begin{array}{r} 28 \\ \times\ .27 \\ \hline 196 \\ 56 \\ \hline 7.56 \end{array}$$

2) .25 x .12 =

3) 38.2 x 1.9 =

Complete this chart. Show your work on an extra page of paper.

JOB	HOURS PER WEEK	PAY PER HOUR	MONEY EARNED PER WEEK
4) N.Y.C.	26.5	$1.50	
5) Babysitting	19.3	$ .75	
6) Gardner	8.0	$4.00	
7) Store Clerk	35.5	$2.75	
8) Seamstress	20.0	$3.25	
9) Cook	16.8	$1.90	
10) Auto Mechanic	36.5	$11.00	
11) Mailman	20.4	$3.50	
12) Oil Refinery Worker	40.0	$3.75	

13) If you saved $.08 (cents) a day, how much would you save in 3 years? (1 year = 365 days) _____

14) You spend 7.35 hours in school a day. In 180 days you would spend _____ hours.

15) A car gets 14.7 miles per gallon of gas. How far could you drive on 8.1 gallons? _____

16) J.C.L. sold 1,100 tickets for $1.25 each, and 300 at $.75. How much did they collect? _____

17) Mr. Jaso bought 4 pairs of socks for $.68 a pair; 6 shirts "on sale" for $.39 each; and 8 pair os walking shorts for $1.32 each. How much did he spend? _____

18) You work after school 2.5 hours each day for 5 days. At $1.35 an hour, how much money would make? _____

19) Your Dad jogs 1.03 miles every day. How far does he run in 137.5 days? _____

20) You spend $.54 a day for lunch at school. How much do you spend in: 10 days _____ 100 days _____

21) If worked for N.Y.C. at $1.58 an hour, how much would you earn for 40 hours? _____

22) At $1.58 an hour, how much would make for 143 hours?

_____

MULTIPLICATION OF DECIMALS L - 3

Name _____ Period _____ Date _____

Objective: You will be able to compute the product of a decimal number by powers of ten.

The "smart person" gets the job done well with the least amount of effort.

Here's a short cut method for multiplying a decimal number by powers of ten.

What is a power of ten? A 1 (one) with any number of zeros after it is a power of ten. (10, 100, 1000 .....)

Multiplying by powers of ten

Step 1) Count the number of zeros in the power of ten.

Step 2) Move the decimal point to the right as many places as there are zeros. (You may have to annex zeros in the product.)

Example: 100 x .046

Step 1) There are 2 zeros in this power of ten.

Step 2) Move the decimal point 2 places to the right, so

100 x .046 = 4.6

1) 9.5 x 10

2) 92.01 x 100

3) 82.9 x 10

4) 4.321 x 100

5) 1.885 x 1000

6) 33.4 x 100

7) 42.53 x 10

8) 42.115 x 1000

9) 6.24 x 10

10) .1425 x 1000

11) 6.83421 x 10

12) 3.13 x 1000

13) .03215 x 1000

14) .0137 x 1000

15) 1.28 x 100

MULTIPLICATION OF DECIMALS L - 4

Name _____ Period _____ Date _____

Objective: You will be able to solve any multiplication problem involving decimals.

Sometimes you need to multiply more than two factors together.

(1) .2 x .3 x .4 =

.06 x .4 = _____

(2) .6 x .1 x .2 =

.06 x .2 = _____

(3) .02 x .04 x .3 =

.0008 x .3 = _____

(4) .4 x .02 x .001 =

____ x .001 = _____

(5) .02 x .02 x .02 =

_____ x ____ = _____

(6) 1.2 x .01 x 3.4 = _____

(7) 3.2 x 8.1 x .01 = _____

(8) .04 x 1 x .1 = _____

(9) 32.1 x .02 x .6 = _____

(10) 46.1 x 3.2 x .04 = _____

(11) 3.4 x .04 x .005 = _____

(12) 3.4 x.02

(13) 81.4 x .004

(14) 7.001 x .021

(15) 79.01 x 3.04

(16) 961.1 x .21

(17) 3.001 x .0002

(18) 71.2 x .1

(19) 2.101 x .08

(20) 3.42 x 2.01

(21) .011 x .361

(22) 36.1 x 10 = _____

(23) 3.61 x 100 = _____

(24) .46 x 1000 = _____

(25) .01 x 100 = _____

(26) 3.02 x 100 = _____

(27) 46.1 x 1000 = _____

(28) 8.914 x 10,000 = _____

(29) .0004 x 1000 = _____

Let's do some estimating.

(30) 5 shirts at $6.95 apiece cost about:

(a) $30 (b) $35 (c) $40 (d) $9 (e) $15

(31) 3 bike tires at $2.57 apiece cost about:

(a) $4.50 (b) $4.00 (c) $5.00 (d) $2.00

(e) $8.00

(32) 6.5 pounds of candy at .99 per pound cost about:

(a) $3.00 (b) $8.00 (c) $6.50 (d) $1.00

(e) $5.00

(33) 2 pairs of shoes at $15.75 per pair cost about:

(a) $50 (b) $70 (c) $20 (d) $31 (3) $1,000

(34) 6 T-shirts at 69¢ apiece cost about _____

(35) 5 pairs of sox at $1.09 a pair and 3 pairs of pants at $6.95 cost about _____.

(36) 8 spark plugs at 69 cents apiece, points at $2.00 and a condensor at 39¢ cost about _____.

(37) 4 cans of peaches at 33 cents a can, 3 boxes of soap at 79 cents, and 9 pounds of meat at 39 cents per pound cost about _____.

Name_____ Period____ Date_____

Level L Checkpoint 1-4

Multiplication of Decimals

1) $\begin{array}{r} .9 \\ \times\ 8 \\ \hline \end{array}$

2) $\begin{array}{r} 1.4 \\ \times\ .5 \\ \hline \end{array}$

3) $\begin{array}{r} .04 \\ \times\ .9 \\ \hline \end{array}$

4) $\begin{array}{r} 2.1 \\ \times\ .16 \\ \hline \end{array}$

5) $\begin{array}{r} 14.3 \\ \times\ .012 \\ \hline \end{array}$

(L-2)

6) A car gets 17.8 miles per gallon. How far can you drive with 10.2 gallons? _____

7) 167.1 x 10 = _____

8) 1.892 x 100 = _____

(L-3)

9) .2 x .1 x .3 = _____

10) 2.4 x .3 x .02 = _____

(L-4)

Name_____Period____Date_____

Level L A Checkpoint 1-4

Multiplication of Decimals

1) .4 x .7

2) .5 x 9

3) .08 x 9

4) 4.1 x .08

5) 2.412 x .81

(L-1)

6) It is .6 miles from school to Johnny's house. If he walks home every day from school this week, how many miles did he walk? School week is 5 days. _____

(L-2)

7) 47.1 x 10 = _____

8) 3.3714 x 1000 = _____

(L-3)

9) .2 x .3 x .01 - _____

10) 3.2 x .01 x 2.1 = _____

(L-4)

Name _____ Period ____ Date _____

POSTTEST L

Multiplication of Decimals

1) $\begin{array}{r} .5 \\ \times\ .3 \\ \hline \end{array}$

2) $\begin{array}{r} 3 \\ \times\ .6 \\ \hline \end{array}$

3) $\begin{array}{r} 1.4 \\ \times\ .2 \\ \hline \end{array}$

4) $\begin{array}{r} 3.4 \\ \times\ .3 \\ \hline \end{array}$

5) $\begin{array}{r} 2.3 \\ \times\ 2.4 \\ \hline \end{array}$

6) $\begin{array}{r} .43 \\ \times\ 2.1 \\ \hline \end{array}$

7) $\begin{array}{r} .004 \\ \times\ .3 \\ \hline \end{array}$

8) $\begin{array}{r} 6.21 \\ \times\ .02 \\ \hline \end{array}$

9) $\begin{array}{r} .61 \\ \times\ .023 \\ \hline \end{array}$

10) $\begin{array}{r} .26 \\ \times\ 27 \\ \hline \end{array}$

11) $\begin{array}{r} 2.3 \\ \times\ 1.61 \\ \hline \end{array}$

12) $\begin{array}{r} .005 \\ \times\ .07 \\ \hline \end{array}$

(L-1)

13) Bill rides his bike 1.7 miles a day. How far does he ride in 8 days? _____

14) Apples sell for $.16 each. How much does one dozen cost? _____

15) A truck gets 12.2 miles per gallon. How far can you drive with 20.5 gallons? _____

(L-2)

(Posttest L)

16) 3.2 x 10 = _____ 17) .01 x 100 = _____

18) 2.31 x 1000 = _____ 19) 17.6 x 10 = _____

20) .0004 x 10,000 = _____

(L-3)

21) .3 x .4 x .3 = _____

22) .01 x .001 x .2 = _____

23) .7 x 5 x .4 = _____

24) .3 x .5 x 1.6 = _____

25) 86.001 x .003 = _____

(L-4)

State Demonstration Program
Pittsburg Unified School District

LEVEL REVIEW L

Name_____Period____Date_____

Multiplication of Decimals

1. $\begin{array}{r} .4 \\ \times\ .7 \\ \hline \end{array}$

2. $\begin{array}{r} .5 \\ \times\ .9 \\ \hline \end{array}$

3. $\begin{array}{r} .08 \\ \times\ 9 \\ \hline \end{array}$

4. $\begin{array}{r} 4.1 \\ \times\ .08 \\ \hline \end{array}$

5. $\begin{array}{r} 2.412 \\ \times\ .81 \\ \hline \end{array}$

(L-1)

6. It is .6 miles from school to Johnny's house. If he walks home every day from school this week, how many miles did he walk? School week is 5 days. _____

(L-2)

7. 47.1 x 10 = _____

8. 3.3714 x 1000= _____

(L-3)

9. .2 x .3 x .01 = _____

10. 3.2 x .01 x 2.1 = _____

(L-4)

LEVEL M PRETEST

Division of Decimals

Name_____

Period_____

Date_____

1) $6\overline{)3.6}$

2) $12\overline{)14.4}$

3) $21\overline{).0378}$

4) $11\overline{)48.51}$

5) $7\overline{).000014}$

(M-1)

6) $4.3 \div 10 =$

7) $87.2 \div 100 =$

8) $17 \div 1000 =$

9) $.51 \div 10 =$

10) $15.8 \div 1000 =$

11) $357.1 \div 100 =$

(M-2)

12) $.8\overline{).24}$

13) $.5\overline{).075}$

14) $.16\overline{)2.96}$

15) $.003\overline{)1.524}$

LEVEL M PRETEST

16) $.117\overline{)1.8252}$

17) $3.411\overline{).071631}$

(M-3)

18) $3.7\overline{).0222}$

19) $.007\overline{)8.4}$

20) $.746\overline{)7497.3}$

21) $.25\overline{)7.5}$

(M-4)

22) $.7\overline{)84}$

23) $.004\overline{)16}$

24) $.36\overline{)2664}$

25) $2.4\overline{)456}$

(M-5)

DIVISION OF DECIMALS M - 1

Name_____Period____Date_____

Objective: You will be able to divide any decimal number by a whole number.

Remember these terms:

6 Quotient
5/30 Dividend
Divisor

In division of decimals you want to always divide by a whole number, no decimal places. In this lesson all divisors are whole numbers.

$5\overline{)15}$ (3)

1) The 5 is called the _____.
2) The 15 is called the _____.
3) The 3 is called the _____.

Follow this rule: Bring decimal point straight up from dividend to Quotient, then divide. Quotient will have the same amount of decimal places as the dividend.

Put the decimal point in the Quotient and tell how many decimal places there will be.

Example: $6\overline{).86}$ (.) (2 decimal places in Quotient)

4) $5\overline{)2.5}$ (.) ____ decimal places

5) $6\overline{).036}$ ____ decimal places

6) $14\overline{).28}$ ____ decimal places

7) $23\overline{)284.28}$ ____ decimal places

8) $252\overline{).4284}$ ____ decimal places

Example: $5\overline{)3.5} = 5\overline{)\overset{.7}{3.5}}$

Example: $8\overline{).32} = 8\overline{)\overset{.04}{.32}}$

Divide, remember to use zeros as place holders, if needed, to get the correct amount of decimal places in the Quotient.

9) $9\overline{).36}$ 10) $8\overline{).48}$ 11) $11\overline{)2.31}$ 12) $8\overline{)8.64}$

13) $12\overline{).72}$

14) $6\overline{)1.2}$

15) $7\overline{)1.4}$

16) $4\overline{)8.8}$

17) $9\overline{).9189}$

18) $6\overline{).01818}$

19) $7\overline{).3514}$

20) $7\overline{)3.563}$

21) $16\overline{)19.2}$

22) $7\overline{).000014}$

23) $10\overline{).300}$

24) $27\overline{).378}$

DIVISION OF DECIMALS M - 2

Name_____ Period_____ Date_____

Objective: You will be able to compute the Quotient of a decimal number by powers of ten.

Remember the "smart person" get the job done well with the least amount of effort.

Here's a short cut method for DIVIDING a decimal number by powers of ten.

What is a power of ten. A 1 (one) with any number of zeros after it is a power of ten (10, 100, 1000 . . .).

Dividing by powers of ten

Step 1) Count the number of zeros in the power of ten (divisor)

Step 2) Move the decimal point to the left as many places as there are zeros (you may have to place zeros as place holders in front of your quotient.

Example: $46.3 \div 100$

Step 1) There are 2 zeros in this power of tens.

Step 2) Move the decimal point 2 places to the left so

46.3 - 100 = .463

Example 2: 1.3 - 1000

Step 1) There are 3 zeros in this power of tens

Step 2) Move the decimal point 3 places to the left. You will have to place zeros as place holders in front of your quotient, so

1.3 - 1000 = .0013

1) $453.2 \div 1000 =$ 2) $3.5 \div 10 =$ 3) $45.1 \div 100 =$

4) $9.5 \div 10 =$ 5) $98 \div 100 =$ 6) $16.3 \div 10 =$

7) $32.8 \div 10 =$ 8) $8973 \div 1000 =$ 9) $376 \div 100 =$

10) $4.5 \div 100 =$ 11) $.07 \div 10 =$ 12) $25.6 \div 1000 =$

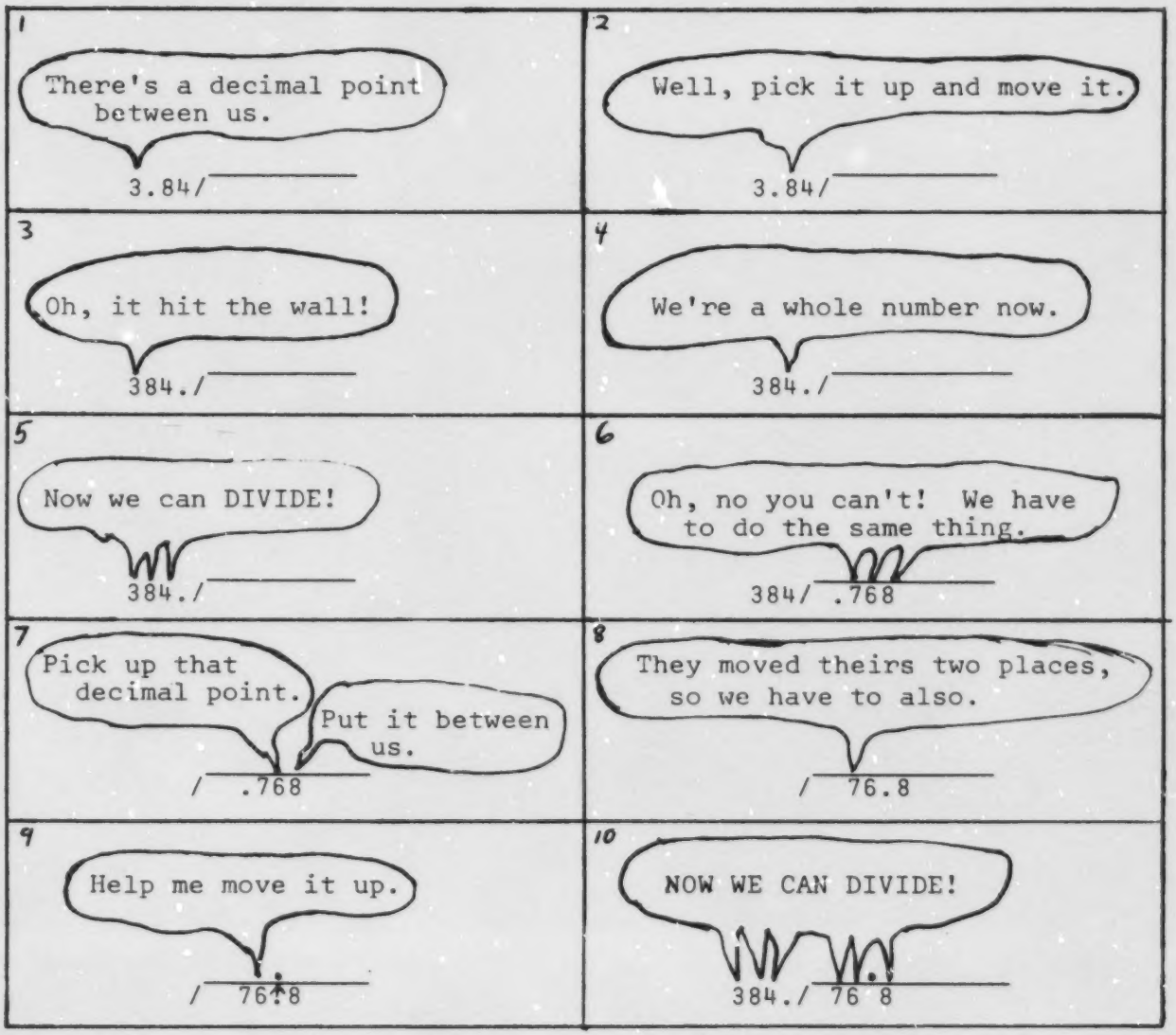
13) $16.8 \div 1000 =$ 14) $.1 \div 100 =$ 15) $525.7 \div 1000 =$

DIVISION OF DECIMALS M - 3

Name_____ Period_____ Date_____

OBJECTIVE: You will be able to divide by a decimal of tenths, hundreths or thousandths.

You can now divide by a whole number. So to make things easy, always divide by a whole number.



Rules: A) Move the decimal point in the divisor to make the divisor a whole number.
B) Move the decimal point in the dividend the same amount of decimal places and place a carat ^ where the decimal has been moved to.
C) Bring decimal point straight up to quotient (answer) where carat is located.
D) Divide as with whole numbers.

Example: $.12\overline{)1.44} \longrightarrow .12_{\wedge}\overline{)1.44_{\wedge}}$

Do not divide. Just put the decimal point in the Quotient (answer).

1) $.21\overline{)9.03}$

2) $.16\overline{).816}$

3) $.48\overline{)4.080}$

4) $.19\overline{).1045}$

5) $.03\overline{)7.0189}$

6) $.09\overline{)3.114}$

7) $.006\overline{).82464}$

8) $.894\overline{).00009}$

Check to make sure 1 to 8 are correct before going on. Now, divide these decimal problems:

9) $.07_{\wedge}\overline{)14.21_{\wedge}}$

10) $.02_{\wedge}\overline{).3416}$

11) $.71\overline{)\ .639}$

12) $.003\overline{)\ .1524}$

M- 3 con't.

13) $.001 \overline{)2.004}$

14) $.8 \overline{).64}$

15) $.25 \overline{).025}$

16) $.101 \overline{).5656}$

17) $.002 \overline{)1.4782}$

18) $6 \overline{)1.824}$

19) $7 \overline{)4.97}$

20) $.117 \overline{)1.83456}$

21) $.05 \overline{).075}$

22) $3.2 \overline{).0544}$

DIVISION OF DECIMALS M - 4

Name _____ Period _____ Date _____

Objective: You will be able to divide decimals by smaller decimal numbers.

You can now divide decimals by a whole number, 10ths, 100ths, 1000ths

Remember the Rules:

A) Move the decimal point in divisor to the right to make a whole number.
B) Move the decimal point in the dividend the same amount of decimal places and put a carat ^ to show where the decimal point is now located.
C) Get decimal point in quotient (answer).
D) Divide as with whole numbers.

Using the same ideas from previous lessons, you can do division of decimals with divisors of any size.

Do these problems.

a) $.0007\overline{).14021}$ b) $.0012\overline{).000144}$

Now try this one.

$.006\overline{)3.6}$

A) We move the decimal point in the divisor three decimal places.

.006^

B) So we have to move the decimal point in the divisor three places. How can you move the decimal point in 3.6 three places?

3.6^ You have some empty places.

RULES:

A) Whatever you do to the divisor, you have to do to the dividend.
B) If there are not enough decimal places in dividend, annex (fill in places) with zeros.

So with 3.6^ you would have to annex two zeros.
Here is the completed problem.

$$.006\overline{)3.600.}$$

M-4 (cont)

Now try these.

2) $.005\overset{\curvearrowright}{\overset{\curvearrowright}{\overset{\curvearrowright}{

DIVISION OF DECIMALS M - 5

Name _____ Period _____ Date _____

Objective: You will be able to divide a whole number by a decimal.

You now can do division problems with decimals in the dividend, but what if the dividend is a whole number?

$.4\overline{)8}$ We have to have a decimal point in the dividend. 8 has no decimal point but going back to Level K we remember that a whole number can be written with a decimal point to its right without being changed.

SO: 8 = 8.

Now you can finish the problem. $.4\overline{)8.0}$ $\quad 20.$

The decimal point is always put to the right of the whole number.

$.05\overline{)5} \Rightarrow .05\overline{)5.} \Rightarrow .05\overline{)5.00}$ $\quad 1\ 00.$

Do these division problems. Be careful of the decimal point.

1) $.012\overline{)6}$

2) $.03\overline{)9}$

3) $.07\overline{)49}$

4) $.4\overline{)10}$

5) $.25\overline{)1}$

6) $.001\overline{)1}$

7) $.04\overline{)1}$

8) $.05\overline{)4}$

9) $.32\overline{)224}$

10) $.006\overline{)96}$

Do these problems. Annex (put in) as many zeroes as necessary to get an answer without a remainder.

11) $15\overline{)72.0}$ $\quad 4.8$

$\quad 60$

$\quad 12$

$\quad 120$

$\quad 0$

12) $45\overline{).09}$

M-5 (cont)

13) $.5\overline{)42}$

14) $.8\overline{)10}$

15) $.05\overline{)9}$

16) $.4\overline{)21}$

17) $22\overline{)11}$

18) $2.5\overline{)8}$

19) $1.6\overline{)4}$

20) $.24\overline{)15}$

21) $1.5\overline{).75}$

22) $.16\overline{)8}$

23) $.002\overline{)23}$

24) $.7\overline{)14}$

LEVEL M CHECKPOINT 1-5

Division of Decimals

Name_____

Period_____

Date_____

1) $12\overline{)27.6}$

2) $23\overline{).0437}$

(M-1)

3) $45.32 \div 10 =$

4) $1.5 \div 100 =$

5) $.3 \div 1000 =$

(M-2)

6) $5\overline{)1.025}$

7) $.075\overline{)6.7575}$

(M-3)

8) $.002\overline{)14.14}$

9) $3.4\overline{)21.76}$

10) $.84\overline{)218.4}$

(M-4)

11) $.7\overline{)42}$

12) $.012\overline{)6}$

13) $.45\overline{)630}$

(M-5)

LEVEL M A-CHECKPOINT 1-5

Name_____

Period_____

Division of Decimals

Date_____

1) $7\overline{)6.3}$

2) $37\overline{)8.88}$

(M-1)

3) $13.723 \div 10 =$

4) $2.8 \div 100 =$

5) $1.5 \div 1000 =$

(M-2)

6) $.7\overline{)1.967}$

7) $.032\overline{)3.328}$

(M-3)

8) $.701\overline{)511.73}$

9) $4.2\overline{)50.82}$

10) $.007\overline{)11.13}$

(M-4)

11) $.9\overline{)81}$

12) $.004\overline{)64}$

13) $.21\overline{)945}$

(M-5)

LEVEL M POSTTEST

Name_____

Period_____

Date_____

Division of Decimals

1) $13\overline{)16.9}$

2) $5\overline{)17.5}$

3) $31\overline{)32.24}$

4) $8\overline{)6.104}$

5) $7\overline{).49}$

(M-1)

6) $4.7 \div 10 =$

7) $8.3 \div 100 =$

8) $4 \div 100 =$

9) $125.9 \div 1000 =$

10) $.287 \div 10 =$

11) $6.8 \div 1000 =$

(M-2)

12) $.8\overline{)98.4}$

13) $.9\overline{).00846}$

14) $.14\overline{).602}$

15) $.008\overline{).0448}$

Level M Posttest (cont)

16) $.003\overline{).01509}$

17) $4.52\overline{)36.7476}$

(M-3)

18) $.004\overline{).41}$

19) $1.31\overline{)484.7}$

20) $.0005\overline{)3.6}$

21) $.43\overline{)279.5}$

(M-4)

22) $.17\overline{)3468}$

23) $.06\overline{)96}$

24) $.4\overline{)732}$

25) $3.8\overline{)1862}$

(M-5)

LEVEL REVIEW M

Division of Decimals

Name_____ Period_____ Date_____

1) $7\overline{)6.3}$ 2) $5\overline{)4.25}$ 3) $23\overline{).0437}$

(M-1)

4) $45.1 \div 100 =$ _____ 5. $.91 \div 10 =$ _____

6) $813.4 \div 1000 =$ _____

(M-2)

7) $.5\overline{)1.025}$ 8) $.7\overline{)1.967}$

(M-3)

9) $.002\overline{)14.14}$ 10) $3.4\overline{)21.76}$

(M-4

11) $.9\overline{)81}$ 12) $.004\overline{)64}$

(M-5)

LEVEL MA PRETEST

Working with Decimals

Name_____

Period_____

Date_____

Change to decimals:

1) $\frac{7}{20}$ =

2) $\frac{3}{4}$ =

3) $\frac{5}{8}$ =

4) $\frac{9}{16}$ =

(MA-1)

Change to decimals. Show repeating pattern.

5) $\frac{2}{9}$ =

6) $\frac{9}{11}$ =

(MA-2)

7) $\frac{7}{15}$ =

8) $\frac{5}{7}$ =

Round off to the nearest 10ths.

9) $4\overline{)31}$

10) $6\overline{)2.3}$

11) $.7\overline{)8.1}$

12) $1.05\overline{)2108}$

Round off to the nearest 100ths.

13) $7\overline{)4}$

14) $.6\overline{)3.2}$

Level MA Pretest (cont)

Round off to the nearest 100ths.

15) $5.2\overline{).079}$ 16) $17\overline{)25}$

Round off to the nearest 1000ths.

17) $8\overline{)1.72}$ 18) $.007\overline{).37}$

(MA-3)

19) John picked peaches for $3\frac{3}{4}$ hours. He picked 7 boxes. How many did he pick each hour? (Round off to the nearest tenth of a box)

20) $412.76 is to be divided evenly between four people. How much money does each person get?

_____

21) A board 8.75 meters long is to be cut into five (5) equal pieces. How long is each piece of board to be?

_____

(MA-4)

DIVISION OF DECIMALS MA - 1

Name _____ Period _____ Date _____

Objective: You will be able to change certain common fractions into terminating decimals.

Terminating Decimals

Definition of "to terminate": to end

The bar between the two numbers in a fraction is a sign of division.

$\frac{1}{2} = 1 \div 2 = 2\overline{)1}$

(1) You know how to find the answer to $2\overline{)1} = 2\overline{)1.0} = 2\overline{)1.0}$

So, $\frac{1}{2} =$ _____

(2) Change $\frac{1}{4}$ to a decimal. $4\overline{)1} = 4\overline{)1.00} = 4\overline{)1.00}$ $\frac{1}{4} =$ _____

(3) Change $\frac{1}{8}$ to a decimal. $8\overline{)1.000}$ $\frac{1}{8} =$ _____

(4) Change $\frac{7}{10}$ to a decimal. $10\overline{)7} =$ _____ $\frac{7}{10} =$ _____

(5) Change $\frac{21}{100}$ to a decimal. $100\overline{)21} =$ _____ $\frac{21}{100} =$ _____

(6) Change $\frac{4}{25}$ to a decimal. $25\overline{)4}$ $\frac{4}{25} =$ _____

Each of the examples above had an "end". There was no remainder. These decimals are called terminating decimals.

Change these fractions to decimals. Add enough zeroes to arrive at "no remainder".

(7) $\frac{7}{20} = 20\overline{)7} =$ _____ (8) $\frac{1}{5} = 5\overline{)1} =$ _____

(9) $\frac{2}{5} =$ _____ = _____ (10) $\frac{3}{5} =$ _____ = _____

(11) $\frac{4}{5} =$ _____ = _____ (12) $\frac{1}{8} =$ _____ = _____

(13) $\frac{3}{8}$ = _____ = .____

(14) $\frac{5}{8}$ = _____ = .____

(15) $\frac{7}{8}$ = _____ = .____

(16) $\frac{1}{20}$ = _____ = .____

(17) $\frac{3}{20}$ = _____ = _____

(18) $\frac{7}{20}$ = _____

(19) $\frac{9}{20}$ = _____

(20) $\frac{17}{20}$ = _____

(21) $\frac{1}{25}$ = _____

(22) $\frac{2}{25}$ = _____

(23) $\frac{3}{25}$ = _____

(24) $\frac{9}{25}$ = _____

(25) $\frac{11}{25}$ = _____

(26) $\frac{1}{50}$ = _____

(27) $\frac{1}{50}$ = _____

(28) $1\frac{1}{2} = 1 + \frac{1}{2} = 1 + 2\overline{)1} = 1.$____

(29) $2\frac{1}{2}$ = 2.____ = _____

(30) Change $1\frac{1}{4}$ to a decimal. _____

(31) $\frac{3}{4}$ = _____

(32) $\frac{7}{40}$ = _____

(33) $\frac{1}{100}$ = _____

(34) $\frac{3}{100}$ = _____

(35) $\frac{3}{50}$ = _____

DIVISION OF DECIMALS MA - 2

Name _____ Period _____ Date _____

Objective: You will be able to change common fractions into repeating decimals.

In the previous lesson, you learned how to change certain common fractions to decimals.

1) $\frac{1}{2}$ =

2) $\frac{1}{4}$ =

3) $\frac{3}{5}$ =

4) $\frac{11}{25}$ =

Each of these had an "end". They are called terminating because you arrive at a point where there is no remainder.

5) Change $\frac{1}{3}$ to a decimal.

$$3\overline{)1.000} = .333\ldots$$

$$\begin{array}{r} 9 \\ \hline 10 \\ 9 \\ \hline 10 \\ 9 \\ \hline 1 \end{array}$$

No matter how many zeros are placed to the right there will always be a remainder of 1. The NUMBER "3" appears as a group over and over in the answer. When this happens we have a repeating decimal.

To write your answer put down all numbers and what repeats twice then put three dots. The three dots mean "and so on forever". So 4.3737... means that we have 4 and then 37 repeating. Remember always write the group that repeats twice.

Try some problems now. Change these fractions to decimals and divide until you see a pattern repeating in the quotient.

6) $\frac{3}{11}$ = $11\overline{)3.0000} = .2727$

$$\begin{array}{r} 22 \\ \hline 80 \\ 77 \\ \hline 30 \\ 22 \\ \hline 80 \\ 77 \\ \hline 3 \end{array}$$

$\frac{3}{11}$ = .____...

7) $\frac{2}{3}$

8) $\frac{1}{12}$

9) $\frac{1}{7}$

10) $\frac{5}{12}$

11) $\frac{2}{7}$

12) $\frac{1}{11}$

13) $\frac{2}{11}$

14) $\frac{5}{6}$

Change these fractions to repeating decimals. Look for a pattern.

15) $\frac{1}{9}$ =

16) $\frac{2}{9}$ =

17) $\frac{3}{9}$ =

18) $\frac{4}{9}$ =

19) $\frac{5}{9}$ =

20) $\frac{6}{9}$ =

21) $\frac{7}{9}$ =

22) $\frac{8}{9}$ =

23) $\frac{9}{9}$ =

There is a shorter way of writing repeating decimals. Look at the following problem.

$\frac{5}{7}$ =

```
      .7142857
   7 ) 5.0000000
       4 9
       ---
         10
          7
         ---
          30
          28
         ----
           20
           14
          ---
            60
            56
           ---
             40
             35
            ---
              50
              49
             ---
               1
```

Here the remainder 1 is repeating and the number 7 in the answer is repeating.

SO

$\frac{5}{7}$ = .714285714285...

This gets to be very large because you have to write what repeats twice. You can use the symbol "—." called bar to show repeating decimals. Just put the bar above the part that repeats.

So $\frac{5}{7} = .\overline{714285}$ & $.3838... = .\overline{38}$

MA-2 (con't)

Change these to the shorter way.

24) .01414... =

25) .315315... =

26) .218787... =

27) 4.915915... =

28) .34563456... =

29) 1.0101... =

Now using the shorter way of expressing repeaging decimals, do the following problems.

30) $\frac{6}{7}$ =

31) $\frac{7}{15}$ =

32) $\frac{11}{12}$ =

If you were working with money and had to give $\frac{6}{7}$ of a dollar to someone ($\frac{6}{7} = .\overline{857142}$) you would have to give them 86¢. The next lesson will show you how to find approximate answers by rounding off.

DIVISION OF DECIMALS MA - 3

Name _____ Period ____ Date _____

Objective: You will be able to find approximate answers by rounding off.

In the previous lessons you worked division problems that terminated or repeated. Some repeating decimals may be very large before they repeat.

Look at $\frac{18}{19} = .\overline{947368421052631578}$

Now if you needed to know any of the following:

1) Amount of money each of 18 people would get if they shared $18.
2) Winning percentage if your team won 18 games out of 19.
3) % you got correct on a test if you got 18 out of 19 problems correct.

These problems need only be taken to a few decimals, #1 and #3 only to the hundredths and #2, the thousandths.

So you would round off.

You have already learned to round off decimals. In division of decimals just divide out one decimal place further than where you are rounding off to.

To round to the nearest tenth, the answer is carried out 2 places past the decimal point and then rounded off. Nearest hundredths, 3 places, nearest thousandths, 4 places.

Find the answers to the nearest tenth.

1) $5\overline{)12.8}$

2) $.08\overline{)23.81}$

3) $15\overline{)1}$

4) $.14\overline{).8125}$

5) $6\overline{)2}$

6) $4\overline{)13.68}$

Find answers to the nearest hundredths.

7) $.6\overline{)8.32}$

8) $14\overline{)20}$

9) $3.21\overline{).2458}$

10) $4\overline{)1.625}$

Find answers to the nearest hundredths.

11) $8\overline{)5}$

12) $.8\overline{)2.655}$

Find answers to nearest 1000ths.

13) $8\overline{)5}$

14) $2.5\overline{)7.532}$

15) $.06\overline{)3.127}$

16) $40\overline{)1.625}$

Many times only a few decimal places are needed like for money (hundredths), batting average, winning percentage (thousandths). Remember this for your next lesson dealing with word problems.

DIVISION OF DECIMALS MA - 4

Name_____Period_____Date_____

Objective: You will be able to work word problems using division of decimals.

1) Joseph paid $5.50 for 5 tickets to a football game. What was the cost of each?
($5.50 ÷ 5 = ?) _____

2) A case of peaches contains 24 cans. If the case costs $10.32, what is the cost of one can?

_____

3) A board is 12.75 feet long. It is cut into 5 pieces of equal lengths. How long is each piece?

_____

4) $483.28 is divided among 8 people. About how much will each one get?

_____

5) Mr. Jones paid $32.24 for 8 hats. What was the cost of each?

_____

6) Mr. Jasper drove his car 524.52 miles in 12.4 hours. How far did he go in one (1) hour?

_____

7) Tyrone Peavy worked 43 hours and was paid $247.25. What was his pay for 1 hour?

_____

8) Sharon and Debbie shared a total of $20.50. If they change all the money to quarters and divide evenly, how many quarters will each one get?

_____

9) Beatrice worked for 9 hours and earned $27.18. How much did she make for one hour?

_____

10) Remember that division can be written in 3 ways: $2\overline{)1}$ = $1 \div 2 = \frac{1}{2}$. What would $\frac{1}{2}$ be as a decimal fraction?

_____

11) Using the idea given in problem 10, what would $\frac{1}{5}$ be as a decimal fraction?

_____

12) Mr. Reed and his grandson Thomas fished for $4\frac{1}{2}$ hours and caught 27 fish. How many fish did they catch each hour?

_____

13) Dennis and Craig are to share equally a 4.5 pound bag of candy. Exactly how many pounds will each one get?

_____

14) Stephanie drove a car 45 miles an hour on a trip and went 101.25 miles. How many hours did she drive?

_____

15) A box of soap cost 79 cents for 2.25 pounds. What is the price per pound?

_____

LEVEL MA A-CHECKPOINT 1-4

Working with Decimals

Name_____

Period_____

Date_____

Change to decimals:

1) $\frac{3}{8} =$

2) $\frac{17}{20}$

(MA-1)

Change to decimals: (show repeating pattern)

3) $\frac{7}{12} =$

4) $\frac{3}{11} =$

(MA-2)

Round off to the nearest 10ths:

5) $8\overline{)3.3}$

6) $\frac{3}{7} =$

Round off to the nearest 100ths:

7) $\frac{5}{6} =$

Round off to the nearest 1000ths:

8) $138\overline{)1.07897}$

(MA-3)

9) Mrs. Leary and Mrs. Moore shared $4\frac{1}{5}$ pounds of candy. How many pounds did each get?

_____

10) $92.52 was divided equally among four people. How much money did each person receive?

_____

(MA-4)

LEVEL MA CHECKPOINT 1-4

Name_____

Period_____

Working with Decimals

Date_____

Change to Decimals:

1) $\frac{2}{5}$ =

2) $\frac{21}{25}$ =

(MA-1)

Change to Decimals. (show repeating patterns)

3) $\frac{5}{7}$ =

4) $\frac{1}{6}$ =

(MA-2)

Round off answers to the nearest 10ths:

5) $.3\overline{)2.14}$

6) $\frac{2}{7}$ =

Round off to the nearest 100ths:

7) $23\overline{)342}$

Round off to the nearest 1000ths:

8) $2.5\overline{).7342}$

(MA-3)

9) Steve did 150 math problems in $1\frac{1}{4}$ hours. How many problems did he do in 1 hour?

($1\frac{1}{4}$ = 1._)

_____

10) Leticia drove a car 45 miles an hour on a trip of 246.81 miles. How many hours did she drive? (answer should be rounded off to the 100ths place)

_____

(MA-4)

LEVEL MA POSTTEST

Name_____

Period_____

Working with Decimals

Date_____

Change to decimals:

1) $\frac{5}{8}$ = 2) $\frac{21}{25}$ = 3) $\frac{7}{16}$ = 4) $\frac{1}{20}$ =

(MA-1)

Change to decimals. Show repeating pattern.

5) $\frac{1}{6}$ = 6) $\frac{5}{7}$ =

7) $\frac{2}{9}$ = 8) $\frac{5}{21}$ =

(MA-2)

Round off to the nearest 10ths:

9) $4\overline{)7}$ 10) $13\overline{)23}$

11) $1.07\overline{)4.2}$ 12) $9\overline{)14.6}$

Round off to the nearest 100ths:

13) $2.3\overline{).145}$ 14) $.05\overline{)1.7213}$

Round off to the nearest 100ths:

15) $.8\overline{)23}$ 16) $.79\overline{).9}$

Round off to the nearest 1000ths:

17) $5.6\overline{)99.98}$ 18) $62\overline{)4.7}$

(MA-3)

19) A board is $24\frac{1}{4}$ feet long. It is cut into 5 equal pieces. How long is each piece?

_____

20) $234 divided evenly between 6 people came to _____ per person.

21) Dexter drove 224.8 miles in 3.7 hours. .How fast did he travel?

_____mph (round off to the nearest 100ths)

(MA-4)

LEVEL REVIEW MA

Working with Decimals

Name_____Period_____Date_____

Change to decimals:

1. a) $\frac{3}{8}$ = b) $\frac{2}{5}$ =

(MA-1)

Change to decimals. (Show repeating patterns)

2. a) $\frac{1}{9}$ b) $\frac{3}{11}$ =

(MA-2)

Round off answers to the nearest 10ths.

3) $8\overline{)3.3}$ 4) $\frac{2}{7}$ =

Round to the nearest 100ths

5) $23\overline{)332}$ 6) $\frac{5}{6}$ =

Round to the nearest 1000ths

7) $.52\overline{).07}$ 8) $2.5\overline{).7342}$

(MA-3)

9) Marcel, Jay and Marlin divided $20.00 among themselves. How much money did each get? (Round to nearest cent.)

10) Linda drove 132.7 miles in 2.5 hours. How many miles per hour did she go?

(MA-4)